

ABSTRACT

Methods are disclosed for fabricating organosilicate glass (OSG) films that have both a low dielectric constant and superior mechanical strength are disclosed. Cyclic siloxane OSG precursors, such as 1,3,5-trivinyl-1,3,5-trimethylcyclotrisiloxane (V_3D_3), are used in conjunction
5 with a mild oxidant to partially oxidize the cyclic structures leading to the formation of silanol groups. The silanol groups can be subsequently condensed to form a porous OSG film.

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